

I claim:

1. A method of monitoring a communication bus, comprising the steps of:

providing a source of electrical power connected in electrical

5 communication with said bus at a first location;

measuring a first voltage potential at said first location of said bus;

measuring a second voltage potential at a second location of said bus;

comparing said first and second voltage potentials; and

determining an operation condition of said bus as a function of a differential

10 between said first and second voltage potentials.

2. The method of claim 1, wherein:

said first voltage potential is measured by a first controller connected in
electrical communication with said first location on said bus.

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3. The method of claim 2, wherein:

said second voltage potential is measured by a second controller connected
in electrical communication with said second location on said bus.

20 4. The method of claim 3, further comprising:

communicating said first voltage potential from said first controller to said
second controller prior to said comparing step.

5. The method of claim 3, further comprising:

25 communicating said second voltage potential from said second controller to
said first controller prior to said comparing step.

6. The method of claim 1, further comprising:

providing a battery as said source of electrical power; and
connecting said battery to said bus at said first location.

5 7. The method of claim 1, wherein:

said second voltage potential is measured by a first controller connected in
electrical communication with said second location on said bus.

8. The method of claim 7, further comprising:

10 providing a sensing wire connected between said first controller and said
second location.

9. The method of claim 1, wherein:

15 said communication bus comprises two power wires and at least one signal
wire.

10. The method of claim 1, wherein:

said communication bus is a CAN bus.

20 11. The method of claim 1, wherein:

said communication bus is a portion of a marine vessel communication
system.

12. The method of claim 1, wherein:

25 said first location is proximate a marine propulsion system.

13. The method of claim 1, wherein:

said second location is proximate a helm of a marine vessel.

14. A method of monitoring a communication bus, comprising the steps of:

5 providing a source of electrical power connected in electrical communication with said bus at a first location, said communication bus being a CAN bus, said communication bus being a portion of a marine vessel communication system;

measuring a first voltage potential at said first location of said bus;

10 measuring a second voltage potential at a second location of said bus;

comparing said first and second voltage potentials;

determining an operation condition of said bus as a function of a differential between said first and second voltage potentials.

15 15. The method of claim 14, wherein:

said first voltage potential is measured by a first controller connected in electrical communication with said first location on said bus; and

said second voltage potential is measured by a second controller connected in electrical communication with said second location on said bus.

20 16. The method of claim 15, further comprising:

communicating said first voltage potential from said first controller to said second controller prior to said comparing step.

25 17. The method of claim 15, further comprising:

communicating said second voltage potential from said second controller to said first controller prior to said comparing step.

18. The method of claim 14, wherein:

said second voltage potential is measured by a first controller connected in electrical communication with said second location on said bus.

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19. The method of claim 18, wherein:

said first location is proximate a marine propulsion system and said second location is proximate a helm of a marine vessel.

10 20. A method of monitoring a communication bus, comprising the steps of:

providing a source of electrical power connected in electrical communication with said bus at a first location, said communication bus being a CAN bus, said communication bus being a portion of a marine vessel communication system;

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measuring a first voltage potential at said first location of said bus;

measuring a second voltage potential at a second location of said bus;

comparing said first and second voltage potentials;

determining an operation condition of said bus as a function of a differential between said first and second voltage potentials, said first voltage potential being

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measured by a first controller connected in electrical communication with said first location on said bus, said second voltage potential being measured by a second controller connected in electrical communication with said second location on said bus; and

communicating said first voltage potential from said first controller to said
25 second controller prior to said comparing step, said first location being proximate a marine propulsion system and said second location being proximate a helm of a marine vessel.